

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: David, DC Examiner #: 69332 Date: 8/6/04
 Art Unit: 1711 Phone Number 302-581 Serial Number: 10503814
 Mail Box and Bldg/Room Location: 6D71 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

*SEARCH REQUEST FORM
 SPC & Tech. Info. Ctr*
 AUG 9

Title of Invention: _____

Inventors (please provide full names): _____
Pat. & T.M. Office

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Formula (E) of claim 1. Blanks.

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>Ed</u>		NA Sequence (#) _____	STN _____
Searcher Phone #: _____		AA Sequence (#) _____	Dialog _____
Searcher Location: _____		Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____		Bibliographic _____	Dr.Link _____
Date Completed: <u>8-11-04</u>		Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____		Fulltext _____	Sequence Systems _____
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Online Time: _____		Other _____	Other (specify) _____

=> file reg
FILE 'REGISTRY' ENTERED AT 09:32:03 ON 11 AUG 2004
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FILE 'REGISTRY' ENTERED AT 09:29:22 ON 11 AUG 2004
ACT TRU844/Q

L1 STR

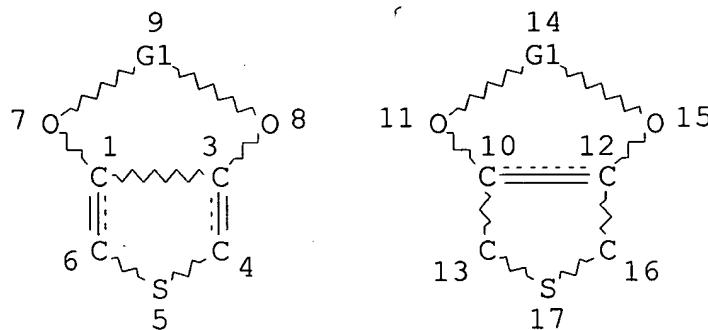
L2 0 S L1
L3 13 S L1 FUL
DEL TRU844/Q
SAV L3 TRU844/A

FILE 'CAOLD' ENTERED AT 09:31:35 ON 11 AUG 2004
L4 0 S L3

FILE 'ZCPLUS' ENTERED AT 09:31:45 ON 11 AUG 2004
L5 4 S L3

FILE 'REGISTRY' ENTERED AT 09:32:03 ON 11 AUG 2004

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L1 STR



REP G1=(1-4) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L3 13 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED 1830 ITERATIONS

13 ANSWERS

SEARCH TIME: 00.00.01

=> file zcaplus

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=> d 15 1-4 ibib abs hitstr hitrn

L5 ANSWER 1 OF 4 ZCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:485814 ZCAPLUS

DOCUMENT NUMBER: 141:38620

TITLE: Preparation of 2,2'-di-(3,4-alkylenedioxythiophene) derivatives by dehydration of dihydrothiophenes.

INVENTOR(S): Reuter, Knud

PATENT ASSIGNEE(S): H.C. Starck GmbH, Germany

SOURCE: Eur. Pat. Appl., 26 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1428827	A1	20040616	EP 2003-27357	200311 27
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10257539	A1	20040701	DE 2002-10257539	

US 2004122239

A1

20040624

US 2003-727736

200212
10

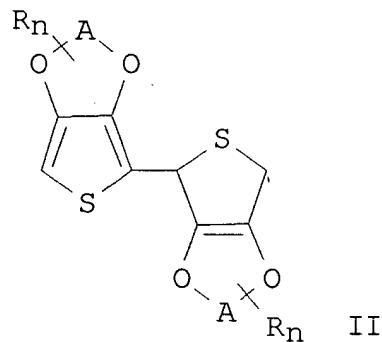
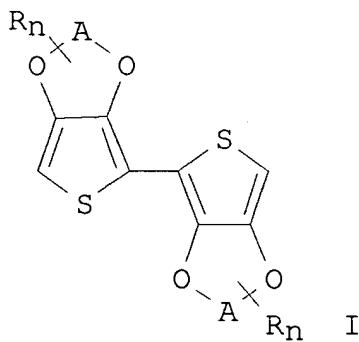
PRIORITY APPLN. INFO.:

DE 2002-10257539

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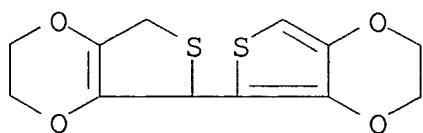
AB Title compds. [I; A = C2-4 alkylene; R = (substituted) alkyl, cycloalkyl, aryl, hydroxyalkyl, OH; n = 0-8], were prep'd. by treatment of the corresponding dihydro derivs. (II; variables as above) with a dehydrating agent. Thus, II (A = CH2CH2; R = H) (prepn. given) was refluxed 10 h with chloranil in xylene to give 63% 2,2'-di-(3,4-ethylenedioxythiophene).

IT 639092-30-1P 639807-56-0P 704897-87-0P

(prepn. of di(alkylenedioxythiophene) derivs. by dehydration of dihydrothiophenes)

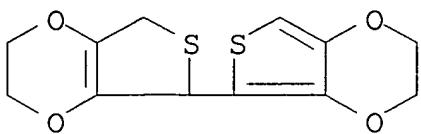
RN 639092-30-1 ZCPLUS

CN 5,5'-Bithieno[3,4-b]-1,4-dioxin, 2,2',3,3',5,7-hexahydro- (9CI) (CA INDEX NAME)



RN 639807-56-0 ZCPLUS

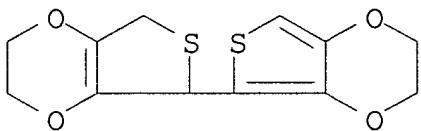
CN 5,5'-Bithieno[3,4-b]-1,4-dioxin, 2,2',3,3',5,7-hexahydro-2,2'(2,3',2',3 or 3,3')-dimethyl- (9CI) (CA INDEX NAME)



2 (D1-Me)

RN 704897-87-0 ZCPLUS

CN [5,5'-Bithieno[3,4-b]-1,4-dioxin]-?,?'-dimethanol,
2,2',3,3'-tetrahydro- (9CI) (CA INDEX NAME)



2 [D1-CH2-OH]

IT 639092-30-1P 639807-56-0P 704897-87-0P

(prepn. of di(alkylenedioxythiophene) derivs. by dehydration of
dihydrothiophenes)

REFERENCE COUNT: 9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L5 ANSWER 2 OF 4 ZCPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:5184 ZCPLUS

DOCUMENT NUMBER: 140:77585

TITLE: Manufacture of alkylenedioxythiophene dimers and
trimers as precursors for conductive polymers
Reuter, Knud; Nikanorov, Valery A.; Bazhenov,
Vassily M.

INVENTOR(S): H.C. Starck Gmbh, Germany

PATENT ASSIGNEE(S): Eur. Pat. Appl., 21 pp.

SOURCE: CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1375560	A1	20040102	EP 2003-13779	200306 18
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10229218	A1	20040122	DE 2002-10229218	200206 28
US 2004031951	A1	20040219	US 2003-603844	200306 25
JP 2004035555	A2	20040205	JP 2003-188548	200306 30
PRIORITY APPLN. INFO.: DE 2002-10229218 A				200206 28

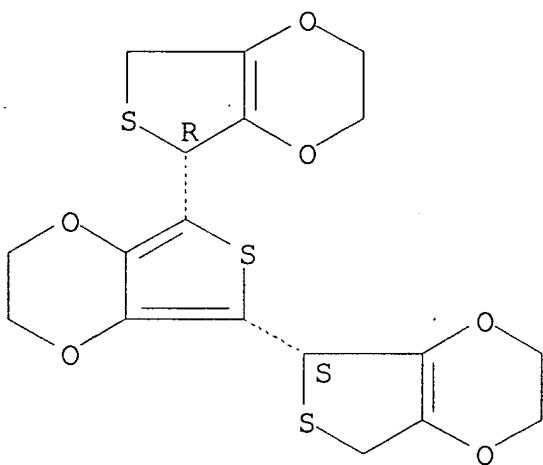
OTHER SOURCE(S): MARPAT 140:77585
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

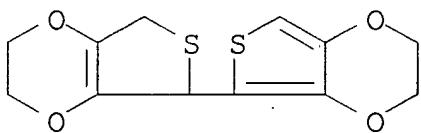
AB The alkylenedioxythiophene dimers and trimers [I; A = (un)substituted C1-4 alkylene; R = (un)substituted C1-18 alkyl, (un)substituted C5-12 cycloalkyl, (un)substituted C6-14 aryl, etc.; n = 0, 1; x = 0-8], precursors for manuf. of neutral or cationic polythiophenes (II; m = 2-200; A, R, x as above), were manufd. by dimerization and trimerization of alkylenedioxythiophenes (III; A, R, x as above) in the presence of Lewis acids and/or protic acids as catalysts. For example, stirring a soln. of 2 mmol ethylene-3,4-dioxythiophene (EDT) in 1.5 mL CH₂Cl₂ with 0.036 mmol BF₃·OEt₂ (CH₂Cl₂ soln.) at 0° for 4 h under Ar gave 16% racemic EDT dimer and 6% EDT trimer (mixt. of stereoisomers).
 IT 639092-32-3P 639807-56-0P 639807-57-1P
 639807-58-2P 639807-59-3P
 (manuf. of dimers and trimers from alkylenedioxythiophenes)

RN 639092-32-3 ZCPLUS
 CN 5,5':7',5''-Terthieno[3,4-b]-1,4-dioxin,
 2,2',2'',3,3',3'',5,5'',7,7''-decahydro-, (5R,5''S)- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.

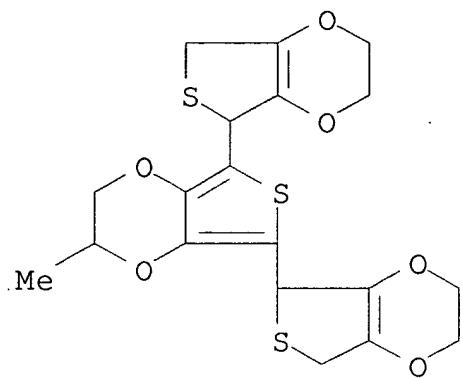


RN 639807-56-0 ZCPLUS
 CN 5,5'-Bithieno[3,4-b]-1,4-dioxin, 2,2',3,3',5,7-hexahydro-2,2'(2,3'-
 ,2',3 or 3,3')-dimethyl- (9CI) (CA INDEX NAME)



2 (D1-Me)

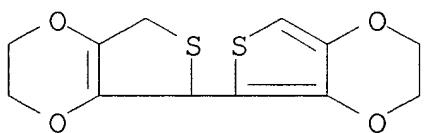
RN 639807-57-1 ZCPLUS
 CN 5,5':7',5''-Terthieno[3,4-b]-1,4-dioxin,
 2,2',2'',3,3',3'',5,5'',7,7''-decahydro-2,2',2''(2,2',3''-,2,3',3''
 or 2',3,3'')-trimethyl- (9CI) (CA INDEX NAME)



2 (D1-Me)

RN 639807-58-2 ZCPLUS

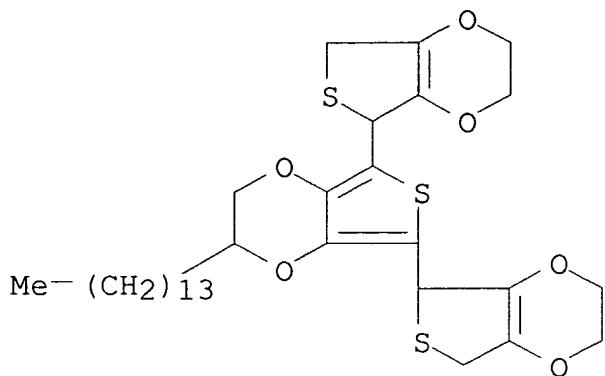
CN 5,5'-Bithieno[3,4-b]-1,4-dioxin, 2,2',3,3',5,7-hexahydro-2,2'(2,3'-2',3 or 3,3')-ditetradecyl- (9CI) (CA INDEX NAME)



2 [Me- (CH₂)₁₃-D1]

RN 639807-59-3 ZCPLUS

CN 5,5':7',5'''-Terthieno[3,4-b]-1,4-dioxin,
2,2',2'',3,3',3'',5,5'',7,7'''-decahydro-2,2',2''(2,2',3''-,2,3',3''
or 2',3,3'')-tritetradecyl- (9CI) (CA INDEX NAME)



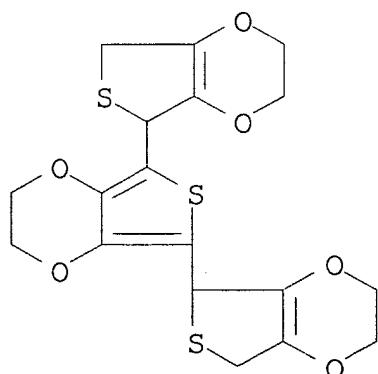
2 [Me-(CH₂)₁₃-D1]

IT 639092-31-2P

(mixt. of isomers; manuf. of dimers and trimers from alkylenedioxythiophenes)

RN 639092-31-2 ZCPLUS

CN 5,5':7',5''-Terthieno[3,4-b]-1,4-dioxin,
2,2',2'',3,3',3'',5,5'',7,7''-decahydro- (9CI) (CA INDEX NAME)

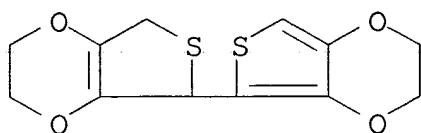


IT 639092-30-1P

(racemate; manuf. of dimers and trimers from alkylenedioxythiophenes)

RN 639092-30-1 ZCPLUS

CN 5,5'-Bithieno[3,4-b]-1,4-dioxin, 2,2',3,3',5,7-hexahydro- (9CI) (CA INDEX NAME)



IT 639092-32-3P 639807-56-0P 639807-57-1P
 639807-58-2P 639807-59-3P

(manuf. of dimers and trimers from alkylidenedioxythiophenes)

IT 639092-31-2P

(mixt. of isomers; manuf. of dimers and trimers from alkylidenedioxythiophenes)

IT 639092-30-1P

(racemate; manuf. of dimers and trimers from alkylidenedioxythiophenes)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 ZCPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:797819 ZCPLUS

DOCUMENT NUMBER: 140:5033

TITLE: Thiaporphyrins with one, two and four unsubstituted meso-carbons: Synthesis and functionalization

AUTHOR(S): Agarwal, Neeraj; Hung, C.-H.; Ravikanth, M.

CORPORATE SOURCE: Department of Chemistry, Indian Institute of Technology, Bombay, 400076, India

SOURCE: European Journal of Organic Chemistry (2003), (19), 3730-3734

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:5033

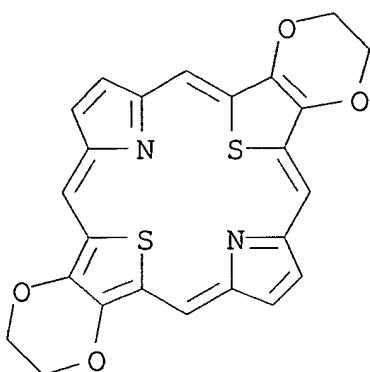
AB Thiaporphyrins with one, two and four unsubstituted meso carbons were synthesized from easily available thiophene diols. The reactivity at these carbons was demonstrated by carrying out series of reactions and some very useful functional groups were introduced. Crystal structure of one product was also reported.

IT 626253-99-4P

(prepn. and functionalization of thiaporphyrins with one, two and four unsubstituted meso-carbons)

RN 626253-99-4 ZCPLUS

CN 5,24:12,17-Diepithio-7,10:22,19-dinitrilocycloecosa[1,2-b:11,12-b']bis[1,4]dioxin, 2,3,14,15-tetrahydro- (9CI) (CA INDEX NAME)



IT 626253-99-4P

(prepn. and functionalization of thiaporphyrins with one, two and four unsubstituted meso-carbons)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 ZCPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:434944 ZCPLUS

DOCUMENT NUMBER: 137:232315

TITLE: Optical and redox properties of a series of 3,4-ethylenedioxythiophene oligomers

AUTHOR(S): Apperloo, Joke J.; Groenendaal, L. "Bert"; Verheyen, Hilde; Jayakannan, Manickam; Janssen, Rene A. J.; Dkhissi, Ahmed; Beljonne, David; Lazzaroni, Roberto; Bredas, Jean-Luc

CORPORATE SOURCE: Laboratory for Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Chemistry--A European Journal (2002), 8(10), 2384-2396

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:232315

AB The optical and redox properties of a series of 3,4-ethylenedioxythiophene oligomers (EDOT_n, n = 1-4) and their β,β'-unsubstituted analogs (T_n, n = 1-4) are described. Both series are end capped with Ph groups to prevent irreversible α-coupling reactions during oxidative doping. Absorption and fluorescence spectra of both series reveal a significantly higher degree of intrachain conformational order in the EDOT_n oligomers. Oxidn. potentials (EPA1 and EPA2) detd. by cyclic voltammetry reveal that those of EDOT_n are significantly lower than the corresponding

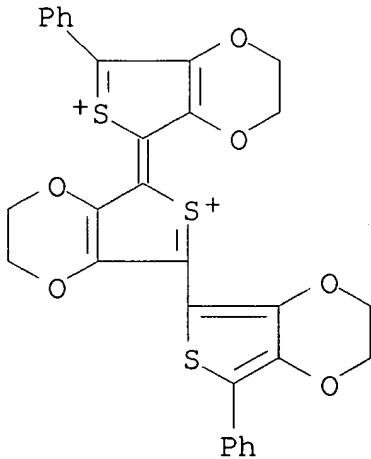
Tn oligomers as a consequence of the electron-donating 3,4-ethylenedioxy substitution. Linear fits of EPA1 and EPA2 vs. the reciprocal no. of double bonds reveal significantly steeper slopes for the EDOTn than for the Tn oligomers. This could indicate a more effective conjugation for the EDOTn series, confirmed by the fact that coalescence of EPA1 and EPA2 is reached already at relatively short chain lengths (\approx 5 EDOT units) in contrast to the Tn series ($>$ 10 thiophene units). The stepwise chem. oxidn. of the EDOTn and Tn oligomers in soln. was carried out to obtain radical cations and dications. The energies of the optical transitions of the radical cations and dications as detd. by UV/Vis/NIR spectroscopy were similar for the two series. These spectroscopic observations are consistent with quantum-chem. calcns. performed on the singly charged mols. Cooling solns. contg. $T_2^{\bullet+}$, $T_3^{\bullet+}$, $EDOT_2^{\bullet+}$, and $EDOT_3^{\bullet+}$ revealed the reversible formation of dimers, albeit with a some-what different tendency, expressed in the values for the dimerization enthalpy.

IT 459409-86-0

(prepn. and optical and redox properties of a series of 3,4-ethylenedioxythiophene oligomers)

RN 459409-86-0 ZCPLUS

CN 5H-1,4-Dioxino[2,3-c]thiolium, 5-(2,3-dihydro-7-phenyl-5H-1,4-dioxino[2,3-c]thiolium-5-ylidene)-7-(2,3-dihydro-7-phenylthieno[3,4-b]-1,4-dioxin-5-yl) - (9CI) (CA INDEX NAME)



IT 459409-86-0

(prepn. and optical and redox properties of a series of 3,4-ethylenedioxythiophene oligomers)

REFERENCE COUNT: 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Truong 10/603, 844

Page 12